

Applicant: Martin Fangmeier
Application No.: 10/550,320

REMARKS

Claims 1-12 are currently pending in this application, as amended. By the present amendment, claims 1 and 5 have been amended, as noted above. Applicant submits that no new matter has been introduced into the application by these amendments.

ALLOWABLE SUBJECT MATTER

In the Action, claims 8 and 11 were only objected to as being dependent upon a rejected base claim and were indicated as being allowable if rewritten in independent form. Applicant appreciates this finding of allowable subject matter. Based on the amendments to claim 1, it is believed that claim 1 should now be in condition for allowance and thus these claims should also be in condition for allowance.

REJECTIONS UNDER 35 U.S.C. §102

Claims 1, 4, 5, 7, 9, 10 and 12, were rejected under 35 U.S.C. §102(b) as anticipated by DE 1475998. Applicant respectfully traverses this rejection.

As amended, claim 1 is directed to a backflow preventer which can be inserted to a gas or liquid line. The backflow preventer includes a closing body embodied as a hollow body open on a drainage side which limits a passage channel between the closing body and a central closing body counterpart. The closing body is displaceable by a flow medium flowing through the passage channel in a flow direction from a closed position, contacting the closing body counter part in a sealing manner, into an open position against a restoring force of an elasticity and/or stability of the closing body. The closing body, in an unstressed closed position, initially contacts only a partial or edge region of the closing body

counterpart with a partial region embodied as a sealing lip of the closing body. The closing body can be further pressed against the closing body counterpart with a partial region of a longitudinal extension thereof under a pressure of the fluid flowing against the flow direction, opening a downstream buffer volume for back flowing fluid. The closing body is non-removably held relative to the closing body counterpart on the backflow preventer in the gas or liquid line. Additionally, the central closing body counterpart is connected to a through flow plate.

In contrast to the present invention, DE '998 provides a backflow preventer in which the closing body is made of an elastic material and is slidably mounted via a slide ring (18) inside the tubular sliding guide (19) so that a counter flow causes the closing body and the slide ring to slide along the guide surface (19) until the closing body is pressed against an end position in which the closing body contacts the conically shaped surface of the centrally located counterpart. Due to the sliding movement between the sliding guide surface and the sliding ring (18), there is a potential leakage point at the required sliding fit between the slide ring (18) and the guide surface (19) which, either through a poor fit or through tolerance causing wear over time will result in the arrangement provided in DE '998 leaking.

As amended, claim 1 clearly distinguishes over this reference as it recites that the closing body is non-removably held relative to the closing body counterpart on the backflow preventer in the gas or liquid line, which clearly eliminates this leakage problem. Additionally, there is no suggestion or disclosure of the central closing body counterpart being connected to a through flow plate in DE '998. Accordingly, withdrawal of the Section 102(b) rejection of claim 1 is respectfully requested.

Claims 4, 5, 7, 9, 10 and 12 depend directly or indirectly from claim 1 and are similarly patentable. Applicant further notes that DE '998 does not show the

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closing body counterpart having a rounded end section that is formed in a drop shaped manner as recited in claim 4. Further, there is no suggestion of the closing body including a closing body section held at the through flow plate that contacts an interior circumference of the gas or liquid line in a sealing manner as recited in claim 9. The annular cross sectional enlargement of the upstream face edge region of the closing body that contacts the gas or liquid line in a sealing manner as recited in claim 10 is also absent from this reference. Further, the requirement for forming the backflow preventer in two pieces as recited in claim 12 is also not met.

Accordingly, withdrawal of the Section 102(b) rejection of these claims is respectfully requested.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

Claim 6 was rejected as obvious in view of DE '998. Applicant respectfully traverses this rejection.

Claim 6 depends from claim 1 and should be similarly patentable over this reference for the reasons noted above in connection with claim 1.

Claims 2 and 3 were also rejected under 35 U.S.C. §103 as unpatentable over the combination of DE '998 in view of U.S. 2,938,532 to Fraser. Applicant respectfully traverses this rejection.

Claims 2 and 3 depend directly or indirectly from claim 1 and should be similarly patentable for the reasons noted above in connection with claim 1. Fraser does not address the deficiencies of DE '998 in connection with claim 1 and further does not provide a backflow preventer having a closing body that, in an unstressed closed position, initially contacts a partial or edge region of the closing body counterpart. As clearly illustrated in Figure 4 and discussed in the associated text, the flexible valve member (27) of Fraser is open in its unstressed position. See Fraser column

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2, lines 33-40. Additionally, it is clear that the referenced portion (31) of Fraser cannot meet the limitation of claim 2 which requires a free edge region of the sealing lip which contacts the closing body counterpart to be provided with the edge reinforcement to compensate expansion of an edge region circumference. The reinforcement (31) of Fraser does not contact the closing body counterpart. See in particular Figures 4-6. Accordingly, withdrawal of the Section 103 rejection of claims 2 and 3 is respectfully requested.

CONCLUSION

If the Examiner believes that any additional minor formal matters need to be addressed in order to place the present application in condition for allowance, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing Amendments and Remarks, Applicant respectfully submits that the present application, including claims 1-12, is in condition for allowance, and a Notice to that effect is respectfully requested.

Respectfully submitted,

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